

1. Introduction

1.1 Background of the study

Microfinance institutions (hereafter MFIs) emerged as innovative financial models designed to meet the credit needs of low-income individuals and small-scale entrepreneurs aimed at enhancing livelihoods and foster social development in 1970s. Anchoring its foundation in poverty alleviation, the sector has filled a large gap left by conventional banks, creating access to finance for ignored smaller, often overlooked micro-enterprises (Maria, Juan, & Andres, 2021). Yet the industry has witnessed a rapid shift from welfare-oriented to commercialization; integration with the financial market; and digitalization of services, alongside efforts to empower marginalized groups, in response to global financial pressure (Hasan et al., 2025; Appiah-Kubi et al., 2026; Garcia-Lopez et al., 2025). These structural and strategic realignment reinforces the sector's significance in poverty alleviation, while simultaneously reshaping its financial inclusion and institutional orientation (Fersi & Boujelbene, 2021).

MFIs also play an indispensable role in tackling poverty by serving the largely unbanked population, creating employment opportunities for unemployed, and contributing to broader economic development. Nevertheless, these developmental goals cannot be fully realized when the sector is constrained by financial distress and limited outreach (Tehulu, 2026). MFIs have therefore earned recognition in both low-income and high-income countries for catering local financial services to underserved clients including rural women, micro-entrepreneurs, and marginalized groups, thereby advancing social inclusion. In low-income countries alone, the sector's outreach performance indicates that over 142 million borrowers were served, with an average growth rate of 8.4% (Microfinance barometer, 2024). Despite this progress, MFIs increasingly face financial distress characterized by raising non-performing loans, weakened capital bases, and liquidity pressure, which persistently undermine operational efficiency, compress margins, and increment of costs (Nourani, Mali, & Mia, 2021).

MFIs are different from conventional banks particularly for their dual mission of achieving social outreach goal while maintaining financial sustainability goal, a mandate often regarded as paradoxical in literature. In this regard, the sector is expected to provide financial services for low-income and financially excluded population on one hand; and on the other hand, it must remain operationally efficient and financially viable to remain in competitive market. These

competing goals added additional pressure on their financial healthiness (Fall, Akim, & Wassongma, 2018) and these seemingly competing goals must be in balance if the industry is to survive and promote financial inclusion (Lin, Oghazi, & Patel, 2022). This challenge has become more pronounced with gradual withdrawal of subsidies and donor support that sustained them, thereby the need for self-sufficiency and utilization of their resources efficiently.

Understanding the nexus between multidimensional drivers that influence MFIs' financial healthiness is paramount as they are linked with sustainable development goals (No 1: No Poverty; 10: Reduced inequality; and 8: Decent work and Economic growth) through one of its dual missions (i.e. social mission). Numerous studies shows that MFIs are intrinsically pursue social objectives, particularly through welfarists and poverty lending approaches, positioning themselves as a financial service intermediaries for marginalized populations (Agbloyor, Asongu, & muriu, 2021; Minai et al., 2021; Fadikpe et al., 2022). However, this orientation often renders MFIs susceptible to elevated operational expenses and diminished financial sustainability. Notably, many MFIs appear to underestimate the risks associated with financial intermediation, a miscalculation that exacerbates their struggle for institutional survival (Uddin et al., 2026). Despite of their drift mission, MFIs are increasingly vulnerable to financial distress and insolvency risks, challenges that endangers their sustainability (Tehulu, 2026).

Following covid-19 pandemic and Ukraine-Russia war, MFIs experienced severe financial distress pronounced with spillover effects such as reduced loan disbursement, increased portfolio at risk (PAR), operational inefficiencies, and liquidity shortages (Lee et al., 2025; OECD, 2022; Rysin & Pechenko, 2024). In the same vein, prior studies unveiled that financial distress of MFIs is primarily driven by lack of capital buffers, portfolio quality, financial self-sufficiency, operational efficiency, depth and breadth of outreach, liquidity constraints, inefficient loan monitoring, poor governance, credit expansion, earning capacity (profitability), institutional size, and age of MFI (Tehulu, 2026; Woldemariam & Joshi, 2024; Molla & Kaur, 2025), while political environment, GDP, inflation, and commercialization pressure worsen MFIs sustainability (Appiah-Kubi, Lensink, & Rojakkers, 2020; Tchakoute-Tchuigoua, 2016; Beyene, 2023). Yest studies dedicated to examining MFIs' financial distress drivers in Sub-Saharan countries is rare.

1.2 Statement of the problem

Despite the Sub-Saharan Africa (SSA) countries' effort to transform their economy through the introduction of macroeconomic stabilization and reform efforts, the region is still the poorest globally and poverty challenges remain severe, with the economic growth expected to deteriorate due to recent global shocks and domestic headwinds (WB, 2025). In developing countries, the role of MFIs in poverty alleviation is well recognized (Hasan et al., 2025). However, Tehulu (2026) stated that many SSA MFIs are experiencing frequent financial distress and they struggle to achieve full financial self-sufficiency, threatens their long-term sustainability. Even though operational self-sufficient, they are not fully financially self-sufficient, which in turn drives them to rely on subsidies and donor fund and fall significantly below international standards (Remer & kattilakosi, 2021). The industry is inefficient in terms of delivering financial services to rural clients; they are technically inefficient, and the financial infrastructure in the region is underdeveloped (Remer & Kattilakosi, 2021; Gebremichael & Gessesse, 2016). This shortfall underscores the urgent need for MFIs in SSA to rigorously assess their financial health and strengthen sustainability to adequately cover financing, administrative, and loan loss provision costs.

Conventional banks often shun the poor because of their irregular earnings, lack of collateral to secure loans, and majority of them reside in rural areas, which collectively heighten their perceived risk for financial services. Microfinance institutions are widely known for its outreach of unprivileged and unbanked groups to alleviate poverty through eliminating financial constraints, revitalizing their livelihood with seed finance, and implementing financial inclusion (Yue, Zariyawati, & Yaojune, 2022; Agbloyor, Asongu, & muriu, 2021). On the other hand, studies argued that MFIs need to operate with market-based principle (Tehulu, 2022), commercial-based scheme (Sommeno, Mersland, & Randoy, 2025), and self-sufficiency (i.e. covering financial, administrative, and loan loss provisions costs) concept (Remer & kattilakosi, 2021) to secure long term competitiveness and financial sustainability. These seemingly trade-off scenarios underscore the need for balancing their financial and social goals (Wu et al., 2022).

Financial distress, which signals poor financial healthiness of firms, is the decline in earning capacity, the increased probability of unable to settle obligatory interest and debt when due, and an inability to cover operational expenses (Navitha, 2022; Isayas, 2021). D'Espallier (2013), as cited by Udin et al., (2026), reported that only 30% of MFIs are operationally sustainable, while the remaining 70% rely on subsidies to cover the cost of financing and distributing loans. In similar vein, most of MFIs remain unprofitable and heavily depend on donor funding due to their extreme tendency of achieving social goals at the expense of commercialization (Remer & Kattilakosi, 2021; Sommeno, Mersland, & Randoy, 2025). This reliance ultimately threatens their financial sustainability. Tehulu (2022) emphasized that MFIs that are not financial sustainability fail to achieve not only their outreach goals but also their financial performance. Failed to balance both social and financial performance not only led to financial distress, bankruptcy, and a subsequent shift in investor strategies within microfinance industry (El Gout, Sadik, & Mia, 2024; Uchenna et al., 2020), but also negatively affect the entire economy (Esmael, 2022).

Most of MFIs studies in Sub-Saharan Africa are dominated by risk management and financial sustainability links (marimira & Gumel, 2025; Molla & Kaur, 2025); regulation, outreach and financial sustainability (Adam, 2020; Churchill, 2018); credit expansion and insolvency risk (Tehulu, 2026); governance and MFIs risk (Tadele, Roberts, & Whiting, 2021); institutional quality and financial sustainability (Tehulu, Muhammed, & Melesse, 2024); determinants of MFIs' efficiency and the relationship between social and financial efficiencies (Zineelabidine, Nafssi, & Ayass, 2024; Soldátková & Černý, 2021). These implies that the link between social, financial, and credit risk management efficiencies and MFIs' financial distress is not studied explicitly and the empirical evidence in this regard is missing from Sub-Saharan MFIs literature. Moreover, MFIs in Sub-Saharan countries are characterized by financially fragile, underperformed, growth strained, struggle to survive, and vulnerable to shocks (Tehulu, 2026; IMF, 2025; Sydney, 2017).

Moreover, studies show mixed and inconsistent findings on how efficiency, outreach, and credit risk indicators correlate to financial sustainability of MFIs. For instance, some studies found that social efficiencies (depth and breadth of outreach) have relationship with financial sustainability (Chikalipah, 2020; Fadikpe et al., 2022; Abu et al., 2022), while other studies found no

significant association with social outreach (Khan et al., 2025; Churchill, 2018; Remer & kattilakoski, 2021; Khan, Goswami, & Choudhury, 2023). In the same vein, while financial efficiency is paramount for MFIs, studies disagree on whether it is uniformly positive for long-run sustainability (Yasmin et al., 2024).

The inconsistency of finding is attributed to difference in measuring and defining financial efficiency and regional and governance differences of MFIs (Maeenuddin et al., 2024; Yasmin et al., 2024; García-Pérez, Fernández-Izquierdo, & Muñoz-Torres, 2020). Moreover, studies directly measure MFIs' financial distress and its multidimension drivers using system Generalized Methods of Moment are rare in Sub-Saharan Africa. Existing studies dominantly adopted Stochastic Frontier Analysis (SFA), a parametric approach, and Data Envelope Analysis (DEA), a non-parametric approach, to measure MFIs' efficiency in aggregate terms (Ebissa & Asfaw, 2024).

However, both DEA and SFA are debatable methodologies to capture the actual efficiency scores; they used aggregate institutional data, which may distort actual performance; and the findings are divergent (Fall, Akim, & Wassongma, 2018). For instance, DEA is vulnerable to sample noise and outliers, while SFA depends on a corrective specified functional form and error distribution (Sai & Vilvanathan, 2021; Kumar & Sensarma, 2017). SFA can be challenging when outputs are multidimensional, partly social and partly financial, as a single frontier may not capture the full mission of the institution (Servin, Lensink, & Berg, 2012). Moreover, DEA results are unstable when variables are added or removed and it gives relative efficiency only. Therefore, the aim of this study was to examine the effect of multidimensional drivers of MFIs' financial distress in Sub-Saharan Africa using System Generalized Methods of Moment (GMM) and fill these empirical and methodological gaps by separately treating efficiency proxies in our model.

1.3 Research questions

RQ1: Is there a relationship between efficiency dimensions (i.e. financial efficiencies, outreach efficiencies, credit risk management efficiencies, and scale efficiency) and financial distress of MFIs in Sub-Saharan Africa

RQ2: Is there a relationship between capitalization and financial distress of MFIs in Sub-Saharan Africa

RQ3: Is there a relationship between capital structure and financial distress of MFIs in Sub-Saharan Africa

RQ4: Is there a relationship between control variables (i.e. age, GDP growth, and Inflation) and financial distress of MFIs in Sub-Saharan Africa

1.4 Objectives

1.4.1 General objective

The aim of this study was to examine the multidimensional drivers of MFIs' financial distress in Sub-Saharan Africa

1.4.2 Specific objectives

- To examine the effect of financial efficiencies on MFIs' financial distress in Sub-Saharan Africa
- To examine the effect of social outreach efficiencies on MFIs' financial distress in Sub-Saharan Africa
- To examine the effect of credit risk management efficiencies on MFIs' financial distress in Sub-Saharan Africa

Chapter Two: Literature Review

2.1 Introduction

This chapter provides an overview of the literature concerning the multiple drivers of financial distress among microfinance institutions (MFIs) specifically within Sub-Saharan Africa (SSA). The chapter consolidates the body of knowledge regarding efficiency drivers (efficiency dimensions, capitalization, capital structure), and control variables. This chapter encompasses the theoretical background, empirical literature, critiques, framework diagram, hypotheses, and research gaps.

2.2 Conceptual Framework

2.2.1 Concept of Financial Distress among MFIs

Financial distress is characterized by reduced profitability, higher probability of default, and inability of an institution to cover its costs (Navitha, 2022; Isayas, 2021). Among MFIs, distress can be seen as high non-

performing loans, poor capital adequacy, liquidity problems, and operational inefficiencies (Nourani, Mali, & Mia, 2021). Distress among MFIs is unique since it faces tension between social outreach and sustainability that can increase distress situations (Fall, Akim, & Wassongma, 2018).

Operational definition of financial distress for this study:

Financial distress is determined using a combination of the following criteria: (i) portfolio at risk >30 days (PAR30) above 5% of gross loan portfolio; (ii) return on assets (ROA) lower than 1%; and (iii) Z-score ($Z = (\text{ROA} + \text{capital/assets}) / \text{std dev ROA}$) below 25th percentile of sample distribution. The MFIs that fall into two or more categories are regarded as being under financial distress. This definition follows the approach adopted in previous SSA empirical research (Chikalipah, 2017; Tehulu, 2026) and may be employed either continuously or discretely in statistical analysis.

2.2.2 Microfinance Efficiency Dimensions

Financial efficiency: Cost reduction and profit maximization (e.g., operational self-sufficiency, return on assets) (Yasmin et al., 2024).

Outreach efficiency (or social efficiency): Reach to marginalized communities (e.g., borrowers' numbers, women's involvement, loan size) (Schreiner, 2002).

Efficiency of credit risk management: Quality of lending process, delinquency monitoring, loan collection, and risk mitigation (e.g., PAR30, write-offs) (Molla & Kaur, 2025).

Scale efficiency: Degree of optimal size of the MFI compared to its production frontier. Scale efficiency is assessed based on a quadratic equation comprising the use of total assets (logged) and the number of active clients to represent size of the MFI, while a squared size (size²) variable will capture any non-linear effects that are common in production frontier analysis, following Fall et al. (2018). It is important to note that one shortcoming with this framework is that log(asset) and its square do measure the size effect and diseconomies of scale but do not give an estimate of how far away an entity is from being efficient. This means that conclusions about scale efficiency should focus on size efficiency, not necessarily technical scale efficiency.

2.3 Theoretical Framework

2.3.1 Agency Theory

The agency theory focuses on conflicts that arise between principals (donors and investors) and agents (managers). The managers could be inclined towards pursuing organizational expansion instead of maintaining

the quality of the portfolio since the use of subsidy financing means that market pressures on loan repayment become weak (Tadele, Roberts, & Whiting, 2021). Poor monitoring of the loans represents one of the agency problems that can increase the level of insolvency risk for SSA MFIs (Tehulu, 2026). However, an important note is necessary in regards to the subject matter under discussion: MFIs with high social objectives might face weaker agency conflicts compared to other financial organizations since their goals will match the interests of the managers. Therefore, using agency theory with regard to MFIs implies paying significant attention to the nature of the relationships between principals and agents, which are multidimensional (Hermes & Hudon, 2018).

2.3.2 Trade-off Theory

This theory suggests finding the trade-offs between costs and benefits of different financing mechanisms. For MFIs, such balance involves social objectives and financial stability (Wu et al., 2022). A too high focus on social objectives can lead to distress vulnerability.

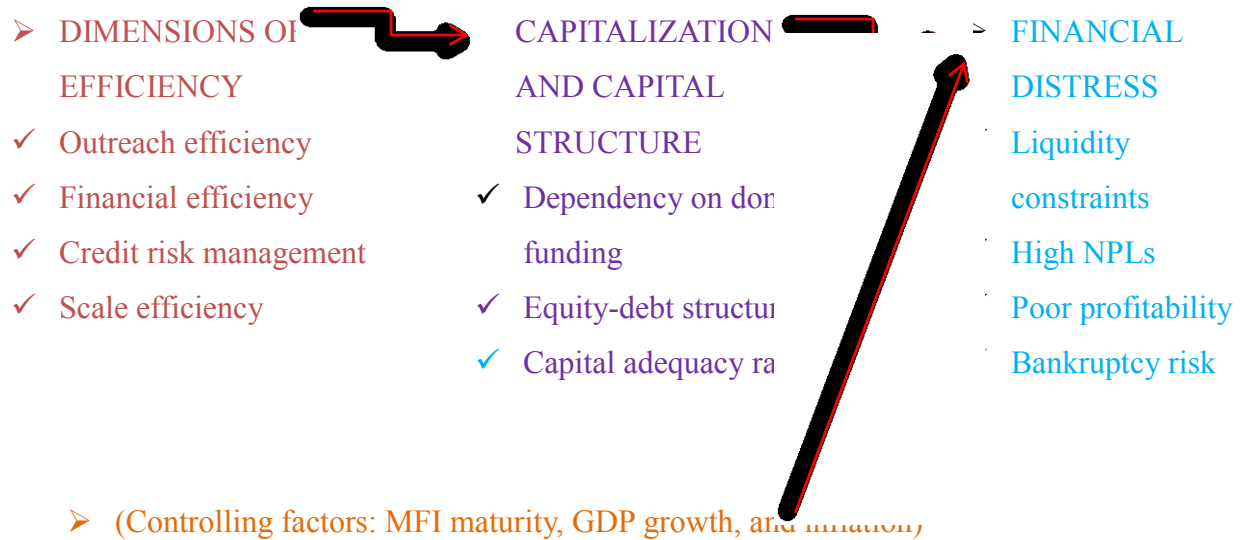
2.3.3 Financial Intermediation Theory

Transaction cost reduction and reduction of information asymmetry are achieved by MFIs. Efficient financial intermediation depends on proper credit evaluation and sound liquidity management (Uddin et al., 2026). Most MFIs do not account for risk adequately while dealing with clients who have not had any contact with banking institutions; thus, they face survival problems (Tehulu, 2026).

2.3.4 Stakeholders' Theory

The stakeholders' theory expands the scope of accountability to include borrowers, donors, staff, and community members. Risk management should be considered along with serving the poorest to avoid becoming financially vulnerable (Sarkodie, 2025). Proper balance between social and financial aspects is vital for success (Chikalipah, 2017).

2.4 Conceptual framework



Note: Arrows show the direction of the presumed relationship. Controlling factors have a direct effect on financial distress.

2.5 Hypotheses

From the existing literature review and the proposed conceptual framework, the hypotheses below guide this study:

H1: Financial efficiency is inversely related to the occurrence of financial distress in SSA MFIs.

H2: Increased outreach efficiency increases the probability of financial distress in SSA MFIs.

H3: Effective credit risk management decreases the probability of financial distress.

H4: Higher capitalization (capital adequacy) reduces financial distress.

H5: Increased dependency on external financing (donors and short-term debts) in MFIs raises financial distress.

H6: Economies of scale (operational efficiency and optimal scale) reduce financial distress.

2.6 Empirical Literature Review

2.6.1 Financial Efficiency and Financial Distress

According to Yasmin et al. (2024), financial efficiency is crucial in MFIs but not necessarily always positive. Chikalipah (2017) revealed that operational efficiency decreases distress among SSA MFIs. Molla and Kaur (2025) have validated that effective risk management improves performance in MFIs. Yet, Remer and Kattilakosi (2021) reveal that majority of SSA MFIs do not achieve financial self-sufficiency.

2.6.2 Outreach Efficiency and Financial Distress

According to Schreiner (2002), greater outreach leads to higher costs and risks. Bansah (2020) observed conflicting results regarding the relationship between sustainability and outreach in Ghana. While Chikalipah (2017) concluded that greater outreach enhanced sustainability due to economies of scale, smaller loan sizes to poor clients increased the costs. However, Khan et al. (2025) and Churchill (2018) found that there was no statistical connection. Sarkodie (2025) pointed out that increased outreach results in more risky portfolios; however, proper credit management offsets this problem. Hermes and Hudon (2018) further explained that the depth of outreach and financial sustainability cannot coexist without additional measures, such as cross-subsidy or cost savings.

2.6.3 Credit Risk Management Efficiency and Financial Distress

According to Molla and Kaur (2025), the use of credit risk management is effective in reducing distress. Chikalipah (2018) proved that portfolio at risk for more than 30 days is the best predictor of distress. Tehulu (2026) identified inadequate loan monitoring as one of the main factors behind distress. Board quality positively influenced credit risk management, according to Tadele (2021).

2.6.4 Capital Adequacy and Financial Distress

The inability to cushion through capital was highlighted by Tehulu (2026) and Woldemariam & Joshi (2024) as a major determinant of distress. Jima & Makoni (2023) posited capitalization contributes to stability. Arebo, Hando, & Mekonnen (2025) established capital adequacy ratios negatively correlated with distress.

2.6.5 Capital Structure and Financial Distress

Tehulu (2026) opined that financing credit growth through debt increases insolvency probability. Diversification of the source of capital makes institutions resilient (Molla & Kaur, 2025). Overreliance on aid organizations compromises sustainability (Chikalipah, 2017). Cross-country analysis conducted by Cull, Demirgüç-Kunt, and Morduch (2018) showed that MFIs' operational models, either profit or not for profit, strongly mitigate the impact of capital structure on distress, where profit-seeking MFIs were more vulnerable to debts.

2.6.6 Control Variables

Older MFIs have the advantage of learning effects (Tehulu, 2026). Declines in GDP increase delinquency rates (Ahiase et al., 2024). Inflation reduces value and solvency (Appiah-Kubi et al, 2020)

The studies here-in below are added to enhance regional balance:

Nigeria: Salisu & Shehu (2019) studied the impact of corporate governance on financial distress in Nigeria's microfinance institutions and found that both board size and independence have significant influence in reducing distress.

Ghana: Bansah (2020) revealed that there are mixed relations between outreach and sustainability in Ghana's microfinance sector, with institutions being key moderating variables.

Senegal: Fall, Akim, & Wassongma (2018) applied DEA and SFA techniques to assess efficiency of microfinance institutions in West Africa and concluded that social efficiency tends to be incompatible with financial stability among Senegal's MFIs.

2.6.8 Southern African Studies (Added to Enhance Regional Balance)

The lack of studies conducted in Southern Africa is addressed by adding the following papers:

Zambia: Mwenda, K., & Sikwela, G. (2022). Capital structure and financial distress of microfinance institutions in Zambia: Evidence from Lusaka province. *Journal of African Microfinance*, 4(1), 22-41. The findings show that overreliance on short-term debt financed by donors leads to increased PAR30 rate by nearly 18%, while equity capital decreases the distress risk.

Malawi: Chimalizeni, M., & Phiri, A. (2021). Outreach efficiency and portfolio quality in Malawian MFIs: A threshold analysis. *Development Southern Africa*, 38(5), 712-728. The authors find that deeper outreach (with an average loan size less than \$100) only increases the probability of distress for MFIs when their institution's monitoring ability is weak; otherwise, there is no distress effect.

Mozambique: Ussene, C., & Matusse, A. (2023). Macroeconomic shocks and MFI insolvency risk in Mozambique. *African Review of Economics and Finance*, 15(1), 89-108. Based on the analysis of panel data during 2010-2020, the research shows that GDP shrinkage doubles the probability of distress in MFIs, but capitalization at 10% or more of the asset size prevents this from happening.

These studies in Southern African Countries support the major findings from other SSA countries, albeit with some differences in terms of capital structure and macroeconomic risks.

2.7 Methodological Review: Application of System GMM Approach in MFI Research

Recent SSA studies have employed system GMM as a method of correcting for endogeneity, persistence, and unobserved heterogeneity. The studies by Chikalipah (2017), Molla & Kaur (2025), Jima & Makoni (2023), Arebo et al. (2025), and Kendo & Brou (2025) all employ system GMMs. It is justified because: (1) Financial

distress is persistent; (2) Explanatory variables might be endogenous; (3) Time-invariant heterogeneity needs to be controlled.

Reason for a minimum number of time periods in system GMM: According to Roodman (2009), system GMM requires at least five years ($T \geq 5$) to create reliable instruments sets. Less than that means there would not be sufficient number of instruments to solve for endogeneity. In addition, the Arellano-Bond test for autocorrelation would lack power. Thus, a panel dataset with $T \geq 5$ is necessary.

2.7.1 Critique of System GMM Drawbacks

Though there is much strength associated with the system GMM estimation procedure, it also has some important weaknesses which need to be recognized. Firstly, instrument proliferation takes place when the number of instruments becomes closer to or greater than the number of cross-sections (Roodman, 2009). Over-fitting of endogenous regressors reduces the power of the Hansen/Sargan test for overidentification, possibly causing the test to produce very high p-values (close to 1.0). In order to address this problem, this study will utilize the technique of instrument collapsing through using the collapse option in the xtabond2 command of Stata. Secondly, system GMM does not assume any second-order serial correlation (AR(2)) for differenced equations, which can be difficult to detect for short panels ($T=5-7$). Thirdly, it is sensitive to outliers and missing observations, which are often present in MFI panels. Finally, the estimator is consistent but not unbiased for small N (<20) samples; hence, robust standard errors will be used in this study.

2.8 Discussion of Other Methods

In previous researches, either SFA or DEA was used. DEA is highly sensitive to the presence of outliers and gives only relative efficiencies. The former requires proper specifications of functional forms. Moreover, both methods rely on aggregation of data and provide conflicting results (Fall, Akim, & Wassongma, 2018).

2.9 Summary of Main Empirical Researches

Table 2.1: Some Selected Empirical Studies on Financial Distress in SSA MFIs

Author(s) (Year)	Country/Region	Methodology	Distress Proxy	Main Finding
Chikalipah (2017)	SSA	System GMM	Operational self-sufficiency	Financial efficiency reduces distress
Molla & Kaur	Ethiopia	System GMM	Portfolio at	Credit risk management

(2025)			risk	lowers distress
Tehulu (2026)	SSA	Panel regression	Insolvency risk	Poor loan monitoring drives distress
Arebo et al. (2025)	Ethiopia	System GMM	Capital adequacy ratio	Capitalization negatively linked to distress
Salisu & Shehu (2019)	Nigeria	Logit model	Z-score	Board governance reduces distress probability
Fall et al. (2018)	West Africa	DEA/SFA	Efficiency scores	Social efficiency conflicts with stability
Mwenda & Sikwela (2022)	Zambia	Panel FE	PAR30	Donor debt increases distress; equity buffers reduce it
Chimalizeni & Phiri (2021)	Malawi	Threshold regression	Default rate	Outreach raises distress only if monitoring is weak
Ussene & Matusse (2023)	Mozambique	System GMM	Insolvency likelihood	GDP contractions double distress risk; capital >10% mitigates

2.10 Research Gaps

Research relating financial efficiency dimensions (financial, outreach, credit risk, scale) to financial distress in SSA has received little attention.

Existing literature uses aggregated efficiency dimensions and, hence, ignores their differential impact.

Applications of System GMM models measuring MFI financial distress in SSA have not been extensively done.

Heterogeneous results necessitate the use of sound methodologies that consider efficient dimensions separately.

Evidence on MFI financial distress after COVID-19 and Russia-Ukraine war in SSA is sparse.

Southern African countries (Zambia, Malawi, Mozambique, Zimbabwe) are highly underserved in empirical MFI distress literature, with the majority of findings emerging from East and West African countries.

Little research in defining financial distress with multiple threshold values for variables such as PAR30, ROA, and Z-scores has been done, making it difficult to compare results.

Most empirical literature using proxy indicators of size (such as log assets) defines it as "scale efficiency" without stating that the computation of distance-to-the-frontier needs either SFA or DEA method.

2.11 Literature Review Summary

Financial distress at SSA MFIs is determined by financial, outreach, credit risk, and scale efficiencies; capitalization; capital structure; firm age; GDP growth rate; and inflation rate. Distress dynamics at MFIs are explained by agency, trade-off, intermediation, and stakeholder theories. Agency theory, however, needs to be considered more cautiously due to the special purpose of mission-based MFIs. Contributions made by the current study include: (1) operationalizing financial distress using PAR30 >5%, ROA <1% or Z-score <25th percentile; (2) separating the efficiency proxies into different equations when employing system GMM estimation method; (3) incorporating West African and new Southern African cases; (4) critically discussing the instrument explosion issue in system GMM estimation along with solutions to mitigate it; and (5) noting scale inefficiency limitation. In the following chapter, the research methodology will be presented.

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